In the Claims:

1. (Previously presented) A method for rerouting a connection in a data communication network, comprising:

establishing the connection in the data communication network, wherein the connection is managed by a control plane;

monitoring status of a selected characteristic of the connection using a user connection monitoring function; and

when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection, wherein the user connection monitoring function includes OAM continuity checking, wherein initiating control plane rerouting of the connection comprises evaluating a new connection before the connection is abandoned, wherein the control plane rerouting over the new connection occurs when a new connection selected characteristic of the new connection is better than the selected characteristic of the connection.

2. (Original) The method of claim 1, wherein the selected characteristic includes continuity on the connection.

3. (Original) The method of claim 1, wherein the selected characteristic includes at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection.

4. (Original) The method of claim 1, wherein the data communication network supports asynchronous transfer mode (ATM) protocol.

5. (Original) The method of claim 4, wherein the control plane is a signaling plane.

6. (Original) The method of claim 5, wherein the signaling plane uses private network-to-network interface (PNNI).

7. (Previously Presented) The method of claim 6, wherein the connection is a soft permanent virtual connection (SPVC).

8. (Original) The method of claim 6, wherein the connection is a switched connection.

9. (Previously Presented) The method of claim 8, wherein the user connection monitoring function utilizes operation and management (OAM) traffic.

10. (Canceled)

11. (Canceled)

12. (Original) The method of claim 9, wherein the user connection monitoring function includes OAM performance monitoring.

13. (Original) The method of claim 12, wherein determining that the status of the selected characteristic is unacceptable further comprises determining that a property of the selected characteristic exceeds a predetermined threshold.

14. (Original) The method of claim 13, wherein the selected characteristic further comprises a plurality of selected characteristics, wherein each selected characteristic of the plurality of selected characteristics has a corresponding predetermined threshold, wherein determining that the status of the selected characteristic is unacceptable includes determining that a property corresponding to at least one selected characteristic of the plurality of selected characteristics exceeds the corresponding predetermined threshold for the at least one selected characteristics.

15. (Original) The method of claim 14, wherein at least a portion of the corresponding predetermined thresholds for the plurality of selected characteristics is configurable.

16. (Canceled)

17. (Canceled)

18. (Original) The method of claim 1, wherein the data communication network supports Multi-Protocol Label Switching (MPLS).

19. (Previously Presented) The method of claim 18, wherein the control plane includes at least one of Label Distribution Protocol (LDP) and ReSerVation Protocol (RSVP).

20. (Original) The method of claim 18, wherein the connection is a Label Switched Path (LSP).

21. (Original) The method of claim 20, wherein the user connection monitoring function monitors continuity along the connection.

22. (Original) The method of claim 20, wherein the user connection monitoring function monitors at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection.

23. (Previously presented) A data communication network, comprising:

a source node;

a destination node operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic in the data stream; and

a control block operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node, wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic, wherein the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided, wherein the control block performs an evaluation of the second connection, wherein the data stream is rerouted over the second connection only if a second connection status of the second connection selected characteristic is better than the status of the selected characteristic.

24. (Original) The data communication network of claim 23, wherein the data stream includes a plurality of asynchronous transfer mode (ATM) cells.

25. (Previously Presented) The data communication network of claim 23, wherein the diagnostic traffic includes operation and management (OAM) continuity checking traffic.

26. (Original) The data communication network of claim 25, wherein the status of the selected characteristic is determined to be unacceptable when loss of continuity is detected for a time period that exceeds a predetermined threshold.

27. (Canceled)

28. (Previously Presented) The data communication network of claim 23, wherein the status of the selected characteristic is determined to be unacceptable when a property associated with OAM performance monitoring exceeds a predetermined threshold.

29. (Original) The data communication network of claim 28, wherein the predetermined threshold is configurable.

30. (Previously Presented) The data communication network of claim 23, wherein the first and second connections are soft permanent virtual circuits.

31. (Previously Presented) The data communication network of claim 23, wherein the first and second connections are switched connections.

32. (Canceled)

33. (Canceled)

34. (Original) The data communication network of claim 23, wherein the data stream is a Multi-Protocol Label Switching (MPLS) data stream and wherein the first and second connections correspond to label switched paths.

35. (Original) The data communication network of claim 23, wherein the selected characteristic includes at least one of: data corruption on the first connection, data loss on the first connection, latency along the first connection, and misinsertion of data on the first connection.

36. (Previously presented) A method for rerouting a connection in a data communication network, comprising:

establishing the connection in the data communication network, wherein the connection is managed by a control plane;

using operation and management (OAM) cells to monitor at least one characteristic of the connection; and

when status of the at least one characteristic is determined to be unacceptable, initiating control plane rerouting of the connection, wherein the OAM traffic comprises OAM continuity checking traffic, wherein the at least one characteristic includes continuity, wherein the control plane rerouting of the connection comprises evaluating a new connection such that rerouting to the new connection occurs when at least one new connection-characteristic of the new connection is better than the at least one characteristic of the connection.

37. (Original) The method of claim 36, wherein the connection is a soft permanent virtual connection (SPVC).

38. (Original) The method of claim 36, wherein the connection is switched virtual connection (SVC).

39. (Original) The method of claim 36, wherein the control plane is a signaling plane.

40. (Original) The method of claim 39, wherein the signaling plane uses private network-to-network interface (PNNI).

41. (Canceled)

42. (Previously Presented) A method for rerouting a connection in a data communication network, comprising:

detecting a fault in the connection in the user plane; and

triggering a reroute of the connection in the control plane based on the fault detected, wherein triggering a reroute further comprises evaluating a new connection such that rerouting to the new connection occurs when the new connection provides better latency performance than the connection.

43. (Original) The method of claim 42, wherein detecting a fault further comprises detecting a fault using operation and management (OAM) services running within the user plane.

44. (Original) The method of claim 43, wherein the connection is a soft permanent virtual connection (SPVC).

45. (Canceled)

46. (Canceled)